

Application No. 09/831,001  
Paper Dated: November 4, 2005  
Appellant's Reply Brief  
Attorney Docket No. 702-010717

AF *AM*



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Appellant : Cindy Theresa Cornelia Cuypers  
Application No. : 09/831,001  
Confirmation No. : 8959  
Filed : September 19, 2001  
Title : Device for Treating a Gas/Liquid Mixture  
Group Art Unit : 1723  
Examiner : Krishnan S. Menon

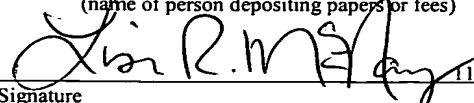
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P. O. Box 1450  
Alexandria, VA 22313-1450

**REPLY BRIEF TO EXAMINER'S ANSWER PURSUANT TO 37 CFR §1.193(b)**

Sir:

This Reply Brief is in response to the Examiner's Answer mailed on September 8, 2005. This Reply Brief is timely filed on November 4, 2005. The Board is respectfully requested to consider this Reply Brief directed to new points of argument raised in the Examiner's Answer.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to MAIL STOP-APPEAL BRIEF PATENTS Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on November 4, 2005.

Lisa R. McNany  
(name of person depositing papers or fees)  
  
Signature 11/4/2005  
Date

On page 7, lines 12-14 of the Examiner's Answer, the reader is directed to column 1, lines 15-21 of Hodgson for a teaching that one variety of artificial separator relies on the "impingement and coalescing of the entrained liquid on a suitable obstruction placed in the path of the flow stream" to cause separation. This passage is newly cited in the Examiner's Answer and has not been previously raised in this prosecution. It is then implied that this "commonly employed" technique disclosed by Hodgson provides another motivation for the cited combination of references. While the Examiner's Answer correctly paraphrases the teaching at column 1, lines 18-20 of Hodgson, the sentence immediately preceding the cited sentence indicates that artificial separators that utilize an "obstruction" in the flow stream are a "second variety" of artificial separator distinct from an artificial separator that "utilizes centrifugal force of the entrained droplets for separation", (See column 1, lines 15-18 of Hodgson). The citation pointed to in the Examiner's Answer does not in any way indicate that a "suitable obstruction" could be utilized with a centrifugal force artificial separator as implied in the Examiner's Answer. Moreover, it is clear that Hodgson draws a clear distinction between the two varieties of separators in the "Summary" (See column 1, lines 29-34) portion of this patent, where it is stated that the disclosed invention contemplates "a horizontal vapor-liquid separator designed for inline installation for the efficient phase separation of a vapor-liquid mixture". Appellant's invention is related to centrifugal separators not horizontal separators.

On page 7, lines 14-20 of the Examiner's Answer, it is argued that that one skilled in the art would recognize that the recycled flow in flow element (4) of WO 97/49477 would include a significant percentage of liquid, leading one skilled in the art to apply the horizontal baffle structure (44, 46) of Hodgson to flow element (4). Rather than relying on a specific or teaching or citation from WO 97/49477 indicating the desirability of placing an "axial obstruction" in a recycle flow conduit, which does not exist, the Examiner's Answer newly relies on Appellant's disclosure for this teaching. WO 97/49477 is completely silent on placing any type of structure in the recycle flow path in flow element (4). Only Appellant's disclosure teaches the concept of providing a divergence element and axial obstruction (See independent claim 13) that causes the recycle flow in a recycle conduit to diverge outward for further recycling and, further, for creep flow interruption. The cited combination of WO 97/49477 and Hodgson is based on suppositions on how flow element

(4) having horizontal baffle structure (44, 46) disposed at the end thereof would or could potentially operate, and this combination is purely the result of hindsight reconstruction based on Appellant's disclosure, which is impermissible.

Moreover, in the paragraph beginning on page 7, line 21 and ending on page 8, line 7 of the Examiner's Answer, it appears to be newly argued that WO 97/49477 teaches a "divergence element 7" for preventing creep flow and, thus, preventing creep flow is already addressed by the primary reference (WO 97/49477). In response, Appellant notes that if a creep flow prevention structure is already disclosed by WO 97/49477, then one skilled in the art would have no motivation to apply the horizontal baffle structure (44, 46) of Hodgson to flow element (4) of WO 97/49477 to achieve creep flow "prevention". There would simply be no reason to do so as such a functioning element is already provided on flow element (4). As stated, Appellant's creep flow "preventer" is formed by a divergence element and an axial obstruction that causes the recycle flow in a recycle conduit to diverge outward for further recycling and, further, for creep flow interruption. If WO 97/49477 already comprises a creep flow interrupter (7) then there is no motivation from WO 97/49477 to place the "axial obstruction" of Hodgson's horizontal baffle structure (44, 46) on flow element (4) to achieve creep flow "prevention". Once again, the only motivation to do so is from Appellant's disclosure, which is impermissible.

Further, on page 8, lines 13-15 of the Examiner's Answer it is newly argued that the combination of WO 97/49477 in view of Hodgson would "inherently have the effect of blowing off the creep flow by the diverging return (recycle) flow". Essentially, this statement is a supposition on how a fictional combination of Hodgson's horizontal baffle structure (44, 46) on the flow element (4) of WO 97/49477 might work. This "inherency" argument is grounded only in Appellant's disclosure rather than any specific or implied teachings from the cited references. However, the cited references in actuality teach away from the hypothetical combination. The stated purpose in Hodgson for horizontal baffle structure (44, 46) is to reverse the flow in main horizontal conduit (24) to allow liquid drops impinging on baffle (44) to coalesce and drip to the bottom of chamber (14) under the force of gravity, (See column 3, lines 28-30 of Hodgson). It is clearly nothing more than a guess that baffle structure (44, 46) would inherently have the effect of blowing off creep flow if applied to flow element (4) of WO 97/49477, and this effect is gleaned from Appellant's

disclosure which is impermissible. Moreover, as indicated in Appellant's Appeal Brief, since horizontal baffle structure (44, 46) is located at the end of main horizontal conduit (24), the logical application of this structure to the vertical recycle conduit disclosed in WO 97/49477 is at the end of outlet pipe (8) well downstream of flow element (4) rather than on flow element (4). This combination is consistent with the teachings of the two cited references and certainly would not have the "inherent effect of blowing off the creep flow" as argued in the Examiner's Answer.

On page 9, lines 12-18 of the Examiner's Answer, it is newly argued that the conical impingement baffle is a known method to coalesce droplets from a gas stream and that Hodgson does not state anywhere that the structure has to be horizontal for the coalescing to occur. As indicated previously, the "Summary" (See Column 1, lines 29-34) portion of the Hodgson patent states that the disclosed invention contemplates "a horizontal vapor-liquid separator designed for inline installation for the efficient phase separation of a vapor-liquid mixture". Accordingly, it is submitted that the horizontal aspect of the horizontal baffle structure (44, 46) is a key feature of this element and applying the horizontal baffle structure (44, 46) to flow element (4) in WO 97/49477 arguably destroys the primary purpose of this structure. The horizontal baffle structure (44, 46) is specifically oriented in a horizontal manner to take advantage of the force of gravity to allow droplets impinging on baffle (44) to coalesce and fall to the bottom of chamber (14), (See column 3, lines 28-30 of Hodgson). Moreover, as indicated previously, it is clear that Hodgson draws a clear distinction between "centrifugal" and "horizontal" separators and thus draws a clear distinction between "vertical" and "horizontal" separators.

Finally, on page 10, lines 9-17 of the Examiner's Answer, it is newly argued that Hodgson is not cited for teaching a return conduit and that the conical baffle is cited for the purpose of its structure and not its location. In response, Applicant submits that these statements are a clear indication that the horizontal baffle structure (44, 46) of Hodgson was arbitrarily selected based on Appellant's disclosure without regard to the specific teachings in Hodgson to the location of this structure and its operation in the horizontal separator disclosed by Hodgson. In essence, an isolated structure from Hodgson was selected piecemeal and added to flow element (4) in WO 97/49477 without regard to the specific teachings in each reference. This combination is arbitrary and based on hindsight


reconstruction using Applicant's disclosure. At page 10, lines 17-18 of page 10 of the Examiner's Answer, it is argued that horizontal baffle structure (44, 46) of Hodgson is cited in the cited combination not for creep prevention but for coalescing droplets of liquid in a gas stream. If this is the purpose behind the citation of horizontal baffle structure (44, 46) in combination with WO 97/49477, then the only teaching in either reference for a liquid creep flow interrupter element is creep flow interrupter (7) disclosed by WO 97/49477, which bears no resemblance to a divergence element and axial obstruction that causes the recycle flow in a recycle conduit to diverge outward for further recycling and, further, for creep flow interruption as claimed in the pending independent claims.

In view of the foregoing and the arguments presented in Appellant's Appeal Brief, it is clear that the pending claims define patentable subject matter over the prior art. Reversal of the Examiner's rejections is therefore respectfully requested.

Any questions or comments regarding this Reply Brief should be directed to the Appellants' undersigned representative.

Respectfully submitted,

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